CLAIMS

What I claim is:

1. In an improved means for integrating a water propulsion system into a ship, the improvement comprising:

   a first bow oriented water propulsor with a first bow oriented water inlet disposed, at least in part, proximal a forward end of a secondary bow of the ship where said secondary bow is disposed proximal a lower forward portion of a main bow of said ship and wherein, when the ship is moving forward and the first bow oriented water propulsor is operating, water taken into the first bow oriented water inlet of the first bow oriented water propulsor generates a downward hydrodynamic force on a bow wave of said ship to thereby reduce the amplitude of said bow wave of the ship.

2. The improved means for integrating a water propulsion system into a ship of claim 1 which further comprises a second bow oriented water propulsor.

3. The improved means for integrating a water propulsion system into a ship of claim 1 wherein the first bow oriented water inlet for the first bow oriented water propulsor is, at least in its majority, disposed above a horizontal centerline of the secondary bow of the ship.

4 The improved means for integrating a water propulsion system into a ship of claim 1 wherein, at least in part, an upper surface of the secondary bow of the ship is lower in way of the first bow oriented water inlet of the first bow oriented water propulsor than forward of the first bow oriented water inlet of the first bow oriented water propulsor.

5. The improved means for integrating a water propulsion system into a ship of claim 1 wherein at least part of the downward hydrodynamic force on the bow wave of the ship is due to acceleration of water passing over upper surfaces of the secondary bow of the ship wherein said acceleration of water is at least in part caused by taking water into the first bow oriented water inlet of the first bow oriented water propulsor.
6. The improved means for integrating a water propulsion system into a ship of claim 1 wherein the ship has a first gas cavity in its underside.
7. The improved means for integrating a water propulsion system into a ship of claim 6 wherein the first bow oriented water propulsor expels at least a majority of its discharge water into the first gas cavity when the ship is moving forward.
8. The improved means for integrating a water propulsion system into a ship of claim 6 wherein the first bow oriented water propulsor further comprises a steering means wherein said steering means is, at least in its majority and with the ship moving forward and with the first bow oriented water propulsor producing forward thrust, disposed internal to the first gas cavity.
9. The improved means for integrating a water propulsion system into a ship of claim 6 wherein the first bow oriented water propulsor further comprises a reversing means where said reversing means is, at least in its majority and with the ship moving forward and with the first bow oriented water propulsor producing forward thrust, disposed internal to the gas cavity.

10. The improved means for integrating a water propulsion system into a ship of claim 1 which further comprises a first stern oriented water propulsor disposed such that a first stern oriented water inlet of said first stern oriented water propulsor is disposed, at least in its majority, aft of midship and proximal an inward turn of a bilge of said ship.

11. The improved means for integrating a water propulsion system into a ship of claim 10 wherein the first stern oriented water inlet of said first stern oriented water propulsor ingests a majority of ship boundary layer water disposed horizontally in-line with and proximal the first stern oriented water inlet of the first stern oriented water propulsor.

12. The improved means for integrating a water propulsion system into a ship of claim 10 wherein water taken into the first stern oriented water inlet of the first stern oriented water propulsor creates a downward hydrodynamic force on a stern wave of the ship resulting in a reduction in amplitude of the stern wave of the ship.

13. The improved means for integrating a water propulsion system into a ship of claim 10 wherein water taken into the first stern oriented water inlet of the first stern oriented water propulsor creates an inward toward the ship directed hydrodynamic force on water flowing alongside the ship to thereby cause a reduction in separation of water flowing aft alongside the ship.

14. The improved means for integrating a water propulsion system into a ship of claim 10 which further comprises a second stern oriented water propulsor.

15. The improved means for integrating a water propulsion system into a ship of claim 10 wherein said first stern oriented water propulsor further comprises steering and reversing means.

16. The improved means for integrating a water propulsion system into a ship of claim 1 wherein the secondary bow has, at least in part, a bulbous shape.

17. The improved means for integrating a water propulsion system into a ship of claim 1 wherein the secondary bow has, at least in part, a shape that is wider in cross dimension horizontally than vertically.

18. The improved means for integrating a water propulsion system into a ship of claim 1 wherein the main bow of the ship, at least in its majority, angles aft going upward from the secondary bow.

19. The improved means for integrating a water propulsion system into a ship of claim 1 wherein said ship further comprises stabilizing outrigger hulls.

20. The improved means for integrating a water propulsion system into a ship of claim 1 wherein said first bow oriented water propulsor is, at least in part, electrically driven.

21. The improved means for integrating a water propulsion system into a ship of claim 10 wherein said first stern oriented water propulsor is, at least in part, electrically driven.

22. The improved means for integrating a water propulsion system into a ship of claim 1 wherein said first bow oriented water propulsor has an armatured rotor that is electrically driven by stator electric field windings.

23. The improved means for integrating a water propulsion system into a ship of claim 10 wherein said first stern oriented water propulsor has an armatured rotor that is electrically driven by stator electric field windings.

24. In an improved means for integrating a water propulsion system into a ship, the improvement comprising:

said ship having a first gas cavity in its underside and a first water propulsor wherein said first water propulsor expels at least a majority of its discharge water into the first gas cavity when the ship is moving forward.

25. The improved means for integrating a water propulsion system into a ship of claim 24 wherein the first water propulsor further comprises a steering means wherein said steering means is, at least in its majority and with the ship moving forward and with the first water propulsor producing forward thrust, disposed internal to the first gas cavity.

26. The improved means for integrating a water propulsion system into a ship of claim 24 wherein the first water propulsor further comprises reversing means where said reversing means is, at least in its majority and with the ship moving forward and with the first water propulsor producing forward thrust, disposed internal to the first gas cavity.

27. The improved means for integrating a water propulsion system into a ship of claim 24 which further includes a second water propulsor having a water inlet disposed, at least in its majority, proximal an inward turn of a bilge of the ship.

28. In an improved means for integrating a water propulsion system into a ship, the improvement comprising:

a first bow oriented water propulsor having a first bow oriented water inlet that, by accelerating water downward proximal a bow of the ship, reduces amplitude of a bow wave of the ship thereby reducing wave drag of the ship.

29. The improved means for integrating a water propulsion system into a ship of claim 28 which further comprises a first stern oriented water propulsor having a first stern oriented water inlet that, by accelerating water downward proximal a stern of the ship, reduces amplitude of a stern wave of the ship thereby reducing wave drag of the ship.

30. The improved means for integrating a water propulsion system into a ship of claim 28 which further comprises a secondary bow of the ship where said secondary bow is disposed proximal a lower forward portion of a main bow of said ship.

31. The improved means for integrating a water propulsion system into a ship of claim 30 wherein, at least in part, an upper surface of the secondary bow of the ship is lower in way of the first bow oriented water inlet of the first bow oriented water propulsor than forward of the first bow oriented water inlet of the first bow oriented water propulsor.

32. The improved means for integrating a water propulsion system into a ship of claim 28 wherein the ship has a first gas cavity in its underside.

33. The improved means for integrating a water propulsion system into a ship of claim 32 wherein the first bow oriented water propulsor expels at least a majority of its discharge water into the first gas cavity.

34. The improved means for integrating a water propulsion system into a ship of claim 32 wherein the first bow oriented water propulsor further comprises a steering means wherein said steering means is, at least in its majority and with the ship moving forward and with the first bow oriented water propulsor producing forward thrust, disposed internal to the first gas cavity.

35. The improved means for integrating a water propulsion system into a ship of claim 32 wherein the first bow oriented water propulsor further comprises a reversing means wherein said reversing means is, at least in its majority and with the ship moving forward and with the first bow oriented water propulsor producing forward thrust, disposed internal to the first gas cavity.

36. The improved means for integrating a water propulsion system into a ship of claim 28 wherein the first bow oriented water propulsor is, at least in part, electrically driven.